

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION See paragraph 2 below

International application No.
PCT/GB2005/000788

International filing date (day/month/year)
02.03.2005

Priority date (day/month/year)
19.03.2004

International Patent Classification (IPC) or both national classification and IPC
G11C16/10, G06F9/445

Applicant
MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
Fax: +49 89 2399 - 4465

Authorized Officer

Trifonov, A

Telephone No. +49 89 2399-7168



WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 a sequence listing
 table(s) related to the sequence listing
 - b. format of material:
 in written format
 in computer readable form
 - c. time of filing/furnishing:
 contained in the international application as filed.
 filed together with the international application in computer readable form.
 furnished subsequently to this Authority for the purposes of search.
3. In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or
industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	2,3,6
	No: Claims	1,4,5
Inventive step (IS)	Yes: Claims	
	No: Claims	1-6
Industrial applicability (IA)	Yes: Claims	1-6
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

Re Item V.

- 1 Reference is made to the following documents:
D1 : EP 0 489 204 A (HEWLETT-PACKARD LIMITED) 10 June 1992 (1992-06-10)
D2 : DE 195 06 957 A1 (SIEMENS AG, 80333 MUENCHEN, DE) 29 August 1996
(1996-08-29)
- 2 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of independent claims 1 and 5 is not new in the sense of Article 33(2) PCT.

2.1 Claim 1

Document D1 discloses a non-volatile memory system (see 10, 13, 16 on Fig. 1), comprising one (18 on Fig. 1) or more (see col. 12, lines 38-41) non-volatile memory segments, means for copying any one segment to be reprogrammed into a first RAM - SRAM 19 (see col. 11, lines 36-48), a second RAM (15 on Fig. 1) for holding a reprogrammed code (see col. 11, lines 51-54), writing means for writing the reprogrammed code from the second RAM into at least one segment to be reprogrammed (see col. 11, lines 51-54 and 53 on Fig. 2B), and control means to enable execution of the program from the first RAM (SRAM 19) during the reprogramming (see 17 on Fig. 1 in combination with col. 11, lines 45-48).

Document D2 discloses a non-volatile memory system (see MPS) comprising a non-volatile memory divided into a plurality of segments (more than one user programs loaded into the non-volatile memory - see col. 1, line 67 - col. 2, line 1), means for copying any one segment to be reprogrammed into a first RAM (see col. 2, lines 2-6), a second RAM (a part of SRAM) for holding a reprogrammed code (see col. 2, lines 6-10), writing means for writing the reprogrammed code from the second RAM into at least one segment to be reprogrammed (see col. 2, lines 10-15), and control means to enable execution of the program from the first RAM (see col. 3, lines 62-66) during the reprogramming (col. 3, lines 13-16).

2.2 Claim 5

The features of claim 5 are contained, in terms of apparatus features, in claim 1. The only feature contained in claim 5 and which is not contained in claim 1 is reverting to the original address instructions for the segment. Since the device is reset after the new code is loaded into the flash memory, as disclosed in D1 - step 54 on Fig. 2B, the program counter is implied to be reverted to the flash memory from where the program is normally executed. Therefore the subject-matter of claim 5 lacks novelty.

3 The features of dependent claims 2 - 4 and 6 can either directly be found in the prior art (**claim 4**: see D1, microprocessor 17 on Fig. 1) or concern obvious modifications of the prior art (**claims: 2, 3**: the flash memory from D1 could be divided between two or more memories, each one reloadable according to the algorithm provided in D1 (see D1, col. 12, lines 37-41). Since the new firmware code before updating is divided into a plurality of segments in the second RAM buffer (segments 15B and 15C) it is obvious selection to divide the flash memory into the same size segments to copy the new firmware without resize of the image file; **claim 6**: a user interface for guiding a user through reprogramming is broadly employed in the in circuit emulators when used to reload or update the firmware in a target microprocessor system. It would therefore be obvious to the person skilled in the art, to apply this feature (a user interface realised on the HOST of Fig. 1) in the device of D1, so that claim 6 lacks an inventive step) and add nothing new or inventive to the independent claims 1 and 5.

Re Item VII.

- the phrases "a polarity" or "a priority" found in claims 1, 5 and 6 are read as "a plurality";
- claim 6 (see numbered line 15) refers to itself and claim 7 which does not exist;
- independent claims 1 and 5 are not cast in the two-part form in accordance with Rule 6.3(b) PCT;

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- reference signs are not inserted in parentheses in the claims in accordance with Rule 6.2(b) PCT;
- contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in documents D1, D2 is not mentioned in the description, nor are these documents identified therein.